# A HIGH SPEED, HIGH AREAL DENSITY INDUCTIVE WRITER FOR USE IN A MAGNETIC DATA RECORDING SYSTEM AND METHOD FOR MAKING SAME

## ABSTRACT OF THE INVENTION

An inductive write element is disclosed for use in a magnetic data recording system. The write element provides increased data rate and data density capabilities through improved magnetic flux flow through the element. The write element includes a magnetic yoke constructed of first and second magnetic poles. The first pole includes a pedestal constructed of a high magnetic moment (high Bsat) material, which is preferably FeRhN nanocrystalline films with lamination layers of CoZrCr. The second pole includes a thin inner layer of high Bsat material (also preferably FeRhN nanocrystalline films with lamination layers of CoZrCr), the remainder being constructed of a magnetic material capable of being electroplated, such as a Ni-Fe alloy. An electrically conductive coil passes through the yoke between the first and second poles to induce a magnetic flux in the yoke when an electrical current is caused to flow through the coil. Magnetic flux in the yoke produces a fringing field at a write gap whereby a signal can be imparted onto a magnetic medium passing thereby.